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| **Using Area and Perimeter**  **to Design a Fun House** | http://its.guilford.k12.nc.us/webquests/areaperim/images/building7.gif |

[Introduction](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#intro) | [Task](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#task) | [Process](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#process)| [Resources](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#resources) | [Evaluation](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#evaluation)| [Conclusion](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#conclusion)

**Introduction:**

Congratulations!  You have been selected to design a get-away house for you and a friend.

[http://its.guilford.k12.nc.us/webquests/areaperim/Up.gif](http://its.guilford.k12.nc.us/webquests/areaperim/areaperim.htm#top)

**The Task:**

To get ready for this special assignment, you and your partner must be sure that you have the skills that you, the architects, will need. A solid understanding of area and perimeter is required. Once you show mastery through graph paper drawings, you will design and draw the floor plan for a small house. Then you will determine how much carpet you will need in two rooms and how much fencing you will need to go around your yard to make sure your dog doesn't get away while you are at school. Your final product will be a floor plan and a drawing of how your house will look from the front.

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**The Process:**

***At the computer:***

**Read all directions before you click.**

**Go to**[**Area Explorer**](http://www.shodor.org/interactivate/activities/perm/index.html)**.**

1. Read everything CAREFULLY.
2. Practice finding the area of several figures.
3. Copy your favorite figure on graph paper. Tell the area and perimeter of the figure.  Don't forget the units on each.

**Go to** [**Perimeter Explorer**](http://www.shodor.org/interactivate/activities/permarea/index.html)

1. Read everything CAREFULLY.
2. Practice finding the area of several figures.
3. Copy your favorite figure on graph paper. Tell the area and perimeter of the figure.  Don't forget the units on each.

**As a final review, go to** [**Math Goodies - Perimeter.**](http://www.mathgoodies.com/lessons/vol1/perimeter.html)

1. Read carefully and do exercises # 1-3.  (You may need to draw them on graph paper.)
2. Print page 2 to show your teacher the work sheet.

**Now try** [**Math Goodies - Area.**](http://www.mathgoodies.com/lessons/vol1/area_rectangle.html)

1. Read carefully and do exercises 1-3.  (You may need to draw them on graph paper.)
2. Print page 2 to show your teacher the work sheet.

**Congratulations! You are now a Licensed Fun House Architect!**

***At home***

* Measure the **length** and **width** of your bedroom and one other room in feet so that you will know what a normal room size is.  The rooms you draw will be smaller.
* Compute the perimeter and the area of the rooms you’ve measured.
* What is the surface area of each of the rooms?

***In the classroom:***

With your partner:

1. Compare the measurements you gathered at home.
2. Draw a house on 1cm graph paper.   
   **Your house must have at least three rooms and a perimeter of at least 120 feet.**
3. Figure out how many square feet of carpet you will need for 2 rooms.   
   **Show those measurements in the drawing of the room.**
4. Draw the fence around the yard.  
   **How much fencing will you need?  Include the unit.**
5. Draw the front view of your house.
6. You will need to paint the interior and exterior of your house. How much paint will you need for the inside? Outside? (Remember what you learned about surface area)

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**Resources:**

[**Area Explorer**](http://www.shodor.org/interactivate/activities/perm/index.html)

[**Perimeter Explorer**](http://www.shodor.org/interactivate/activities/permarea/index.html)

[**Math Goodies - Perimeter.**](http://www.mathgoodies.com/lessons/vol1/perimeter.htmlhttp:/www.mathgoodies.com/lessons/vol1/perimeter.htmlhttp:/www.mathgoodies.com/lessons/vol1/perimeter.htmlhttp:/www.mathgoodies.com/lessons/vol1/perimeter.htmlhttp:/www.mathgoodies.com/lessons/vol1/perimeter.html)

[**Math Goodies - Area.**](http://www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.htmlhttp:/www.mathgoodies.com/lessons/vol1/area_rectangle.html)

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**Evaluation:**

Successful completion of all items on the [check sheet](http://its.guilford.k12.nc.us/webquests/areaperim/our_fun_house_check_list.htm) will be used to evaluate this project.

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**Conclusion:**

CONGRATULATIONS again! You have used your knowledge of measurement, area and perimeter to design a house.  You have also used your artistic ability to share it with your classmates.  Who knows? This may be the beginning of a new career.

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[**GCS WebQuests**](http://its.guilford.k12.nc.us/webquests/index.htm)

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